

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

RIDEAPP, INC.,

Plaintiff,

v.

JUNO USA, LP,

Defendant.

ECF CASE

No. 1:18-cv-11579-KMW

**PLAINTIFF RIDEAPP, INC.'S OPPOSITION TO JUNO USA, LP'S
MOTION TO DISMISS THE AMENDED COMPLAINT**

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TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. STATEMENT OF FACTS	1
A. Professor Dickerson Sought To Reduce the Social Costs of Transportation.....	1
B. Professor Dickerson Foresaw Regulatory and Technological Advances.	2
C. Professor Dickerson Invented His Unified Transportation System.	3
III. LEGAL STANDARDS	3
A. All Facts Must Be Construed In Rideapp’s Favor; Defendants Must Prove The ’730 Patent Claims Are Ineligible By Clear And Convincing Evidence.....	3
B. The Alice Inquiry Determines Patent Eligibility.	4
IV. ARGUMENT	9
A. Juno’s Rule 12(b)(6) Motion is Premature.	9
1. The Fact-Based Inquiry Whether The Patent Relies On “Generic” Components Requires Construction Of Means-Plus-Function Claims.	10
2. The Claims Must Be Construed Before The Factual Determination That Elements Were “Well-Understood, Routine, Or Conventional.”	11
B. ALICE STEP ONE: The ’730 Patent Claims A Patent-Eligible Transit System.....	11
1. The ’730 Patent Combines Specific, Concrete, Emerging Technology To Arrive At An Improved Transit System.	11
2. Courts Find Claims to be Patent-Eligible when they are Directed to a Specific Improvement Over Prior Art Systems.	12
3. Professor Dickerson Claims a New and Improved Transportation System that Integrates Passenger Location Into its Allocation Process.	14
4. There is no danger of preemption.	17
5. Juno Oversimplifies the Invention to Strip The Patent of Meaning.	18
C. ALICE STEP TWO: The Claims Include Inventive Concepts.....	21
1. The ’730 Patent Is Directed To Ground Breaking Solutions To Problems In The Prior Art—And Claims Those Features.	21
2. The Amended Complaint Alleges Inventive Concepts that Create Factual Disputes.....	24
3. An Inventive Concept Based on an Abstraction is Patent Eligible.....	25

TABLE OF CONTENTS
(continued)

	Page
V. CONCLUSION.....	25

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Aatrix Software, Inc. v. Green Shades Software, Inc.</i> , 882 F.3d 1121, 1130 (Fed. Cir. 2018.)	9, 21, 25
<i>Aatrix Software, Inc. v. Green Shades Software, Inc.</i> , 890 F.3d 1354 (Fed. Cir. 2018).....	11
<i>Alice Corp. Pty. v. CLS Bank Int’l</i> , 573 U.S. 208 (2014).....	<i>passim</i>
<i>Amdocs (Israel) Ltd. v. Openet Telecom, Inc.</i> , 841 F.3d 1288 (Fed. Cir. 2016).....	7, 9, 22, 24
<i>Ancora Technologies, Inc. v. HTC America, Inc.</i> , 908 F.3d 1343 (Fed. Cir. 2018).....	13, 21
<i>Ariosa Diagnostics, Inc. v. Sequenom, Inc.</i> , 788 F.3d 1371 (Fed. Cir. 2015).....	17
<i>Bancorp Serv., LLC v. Sun Life Assur. Co. of Canada (U.S.)</i> , 687 F.3d 1266 (Fed. Cir. 2012).....	9
<i>Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC</i> , 827 F.3d 1341 (Fed. Cir. 2016).....	<i>passim</i>
<i>Berkheimer v. HP Inc.</i> , 881 F.3d 1360 (Fed. Cir. 2018).....	25
<i>In re BRCA1– & BRCA2–Based Hereditary Cancer Test Patent Litig.</i> , 774 F.3d 755 (Fed. Cir. 2014).....	8
<i>Cave Consulting Grp., Inc. v. Truven Health Analytics, Inc.</i> , No. 15-cv-02177-SI, 2016 WL 283478 (N.D. Cal. Jan. 25, 2016).....	10
<i>CG Tech. Dev., LLC v. Bwin.Party (USA), Inc.</i> , No. 2:16-cv-00871-RCJ-VCF, 2017 WL 58575 (D. Nev. Jan. 4, 2017)	7
<i>Chamberlain Grp., Inc. v. Linear LLC</i> , 114 F. Supp. 3d 614 (N.D. Ill. 2015)	8
<i>Content Extraction & Transmission, LLC v. Wells Fargo Bank Nat’l Ass’n</i> , 776 F.3d 1343 (Fed. Cir. 2014).....	4, 22

<i>Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.</i> , 880 F.3d 1356 (Fed. Cir. 2018).....	12
<i>CyberSource Corp. v. Retail Decisions, Inc.</i> , 654 F.3d 1366 (Fed. Cir. 2011).....	6
<i>D&M Holdings, Inc. v. Sonos, Inc.</i> , No. CV 16-141-RGA, 2017 WL 1395603 (D. Del. Apr. 18, 2017)	10
<i>Data Distrib. Tech., LLC v. BRER Affiliates, Inc.</i> , No. 12-4878, 2014 WL 4162765 (D.N.J. Aug. 19, 2014)	9
<i>Data Engine Technologies LLC v. Google LLC</i> , 906 F.3d 999 (Fed. Cir. 2018).....	13
<i>Diamond v. Diehr</i> , 450 U.S. 175 (1981).....	5, 8, 9, 14
<i>Elec. Power Grp., LLC v. Alstom S.A.</i> , 830 F.3d 1350 (Fed. Cir. 2016).....	22
<i>Enfish, LLC v. Microsoft Corp.</i> , 822 F.3d 1327 (Fed. Cir. 2016).....	<i>passim</i>
<i>Exergen Corp. v. Kaz USA, Inc.</i> , 172 F. Supp. 3d 366 (D. Mass. 2018)	14
<i>Eyetalk365, LLC v. Zmodo Tech. Corp., Ltd.</i> , 356 F. Supp. 3d 1059 (D. Nev. 2018).....	5, 6, 7
<i>Finjan, Inc. v. Blue Coats Sys., Inc.</i> , 879 F.3d 1299 (Fed. Cir. 2018).....	13
<i>Fleming v. Pickard</i> , 581 F.3d 922 (9th Cir. 2009)	25
<i>I/P Engine, Inc. v. AOL Inc.</i> , 576 Fed. App'x. 982 (Fed. Cir. 2014) (Mayer, J., concurring).....	8
<i>Internet Patents Corp. v. Active Network, Inc.</i> , 790 F.3d 1343 (Fed. Cir. 2015).....	6
<i>Iron Gate Sec., Inc. v. Lowe's Cos.</i> , No. 15-cv-8814(KBF), 2016 WL 4146140 (S.D.N.Y. Aug. 3, 2016)	3, 4
<i>iSentium, LLC v. Bloomberg Fin. L.P.</i> , 343 F. Supp. 3d 379 (S.D.N.Y. 2018).....	4

<i>KSR Int’l Co. v. Teleflex, Inc.</i> , 550 U.S. 398 (2007).....	11, 25
<i>Mayo Collaborative Servs. v. Prometheus Labs, Inc.</i> , 566 U.S. 66 (2012).....	4, 5
<i>McRO, Inc. v. Bandai Namco Games Am. Inc.</i> , 837 F.3d 1299 (Fed. Cir. 2016).....	7, 12, 14, 17
<i>Mortgage Grader, Inc. v. First Choice Loan Servs. Inc.</i> , 811 F.3d 1314 (Fed. Cir. 2016).....	9
<i>Quantum Stream, Inc. v. Charter Commc’ns., Inc.</i> , 309 F. Supp. 3d 171 (S.D.N.Y. 2018).....	4
<i>Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.</i> , 827 F.3d 1042 (Fed. Cir. 2016).....	5, 15
<i>StoneEagle Servs., Inc. v. Pay-Plus Sols., Inc.</i> , No. 8:13-cv-2240-T-33MAP, 2015 WL 518852 (M.D. Fla. Feb. 9, 2015).....	10
<i>SZ DJI Technology Co. v. Yuneec International Co.</i> , No. 5:16-cv-595 BRO (KKx), 2016 WL 8931302 (C.D. Cal. Oct. 13, 2016).....	15, 20
<i>Thales Visionix, Inc. v. United States</i> , 850 F.3d 1343 (Fed. Cir. 2017).....	12, 13, 14
<i>Tranxition, Inc. v. Lenovo</i> , 664 Fed. App’x 968 (Fed. Cir. 2016).....	4
<i>Uniloc USA v. Samsung Elecs. Am., Inc.</i> , No. 2:17-cv-00651-JRG, 2018 WL 4927279 (E.D. Tex. Sept. 18, 2018).....	20
<i>Verint Sys. Inc. v. Red Box Records, Inc.</i> , 226 F. Supp. 3d 190 (2016)	8, 9
<i>Versata Dev. Grp, Inc. v. SAP Am. Inc.</i> , 793 F.3d 1306 (Fed. Cir. 2015).....	8
<i>X One, Inc. v. Uber Techs, Inc.</i> , 239 F. Supp. 3d 1174 (N.D. Cal. 2017)	23
Statutes	
35 U.S.C. § 112(f).....	10
35 U.S.C. § 282(a)	4

I. INTRODUCTION

Contrary to Defendant’s assertions, *Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208 (2014) did not retroactively work to invalidate decades of patents or patent doctrine. Rather, it offered a codification of the long-understood (if regularly misconstrued) patent doctrine that fundamental laws of nature (or mathematics, or other “abstractions”) are not patentable. Understanding that laws of nature underlie nearly all inventions—what would the rocket engine be without the law of gravity?—the *Alice* court specifically warned courts to “tread carefully in construing this exclusionary principle lest it swallow all of patent law.” *Id.* at 217.

Professor Dickerson saw emerging technology as an opportunity to realize an invention that would transform transit. He understood that wireless technology—wireless technology was known, but not yet able to engage in precise geolocation—was advancing and would give life to his transit system. His invention allowed a passenger to engage with transit from a cell phone, request a ride with a few key strokes, track that ride until arrival at a destination, and be securely billed in a cash-free transaction. A car appeared with the press of a few buttons. Nobody standing in the rain waiting for a cab would consider that “better mousetrap” to be “abstract.”

Juno—a company that began operations at least sixteen years *after* Prof. Dickerson filed his patent application and whose entire business model embodies his inventions—now argues that Prof. Dickerson’s revolutionary system is abstract, non-inventive, and not eligible for patenting.

II. STATEMENT OF FACTS

A. Professor Dickerson Sought To Reduce the Social Costs of Transportation.

To put this invention in perspective—perspective that Defendant’s Motion sorely lacks—one need only look back to April 2000, when Professor Dickerson filed his patent application.¹

¹ U.S. Patent No. 6,697,730 (the “730 Patent”), to Professor Dickerson, filed April 4, 2000, issued February 4, 2004.

In 2000, taxi cabs ruled the day, and “smartphones” were in their infancy. Only one commercially available cell phone had ever been endowed with GPS technology (it flopped). No taxi had GPS. Further, GPS signals were intentionally degraded such that location was only precise to several hundred meters (a radius that encompasses Foley Square, Columbus Park, NY County Family Court, NYPD Police Plaza, City Hall, and Chatham Square library). Taxis were notoriously undependable: if hailed on a street corner, they might ignore the hail; driving; if called, they might arrive late, or not at all. Car services were not “on demand.” The idea of an “on demand transit system” was unheard of, and certainly not “conventional” or “routine.” There was no “vehicle dispatch” system that allowed for communication between passenger, vehicle, and a central data allocation system. (Dkt. 35 (hereafter, “AC”) at ¶¶ 18-25.)

B. Professor Dickerson Foresaw Regulatory and Technological Advances.

In 2000, the regulatory and technical landscape was evolving. (AC at ¶ 21.) Technologists looked to cellphones and GPS to improve transportation, and the prior art reflects failed attempts to do so. Cellphones were not “smart phones” in the modern sense, and cellphone usage was largely limited to the geography that a particular carrier supported, that is, where the carrier had erected its own towers. Technologists also looked to GPS to determine mass transportation vehicle arrivals, and therefore scheduling. But GPS receivers were only receivers; they could not transmit radio signals. They were also bulky, as were their antennae; they used enormous amounts of power; and to acquire a GPS signal, the antennae needed a clear view of the sky. As of 2000, a transit system based on GPS and the cell system was impractical. (*Id.* at ¶¶ 21-22.)

Neither cellphones nor GPS provided precise location information. (*Id.* at ¶¶ 21-23.) The ’730 Patent notes that cellphone location technology was “crude.” (*Id.* at ¶ 24.) The GPS system was subject to “Selective Availability”; the military intentionally degraded its precision for all

civilian uses. (*Id.* at ¶ 23.) Neither technology allowed location better than within a several-hundred-meter radius. (*Id.* at ¶¶ 23-24.) After the Wireless Communications and Public Safety Act of 1999 was passed, Professor Dickerson believed that carriers would solve the “passenger location” problem with enhanced GPS; as of April 2000, he believed that the president was going to stop GPS degradation and therefore incorporated GPS into his system. (*Id.* at ¶¶ 21-27, 29, 31.)

C. Professor Dickerson Invented His Unified Transportation System.

Professor Dickerson’s invention includes an innovative combination of hardware and software designed to implement all aspects of his inventive transit system. He integrated wireless means of “allocation” and “tracking,” “location” technology, cellphones, and a unique “central assignment system” (which he calls a “central data system” when it is further enhanced with a database containing passenger parameters). (*See, e.g.*, ’730 Patent at Figure 2, 7:65-8:10, Table 1; AC at ¶ 26.) This was revolutionary in a 2000 transit systems. (AC at ¶ 27.) The invention provided (1) on-demand allocation of a vehicle to a passenger, (2) more efficient and effective route assignment, (3) dynamic updating of scheduling and location, (4) automatic billing for transportation usage, (5) increased security for the passenger and driver, and (6) reduced wait uncertainty. (AC at ¶¶ 17, 20, 26-30, 32-35, 37.) The ’730 Patent aims to correct specific problems in prior art systems: inefficiencies, waiting uncertainty, and security issues in transit. The ’730 Patent provided specific solutions to these problems, improved prior art transportation systems, and changed the industry. The invention was adopted extensively in ride-sharing. (AC at ¶ 37.)

III. LEGAL STANDARDS

A. All Facts Must Be Construed In Rideapp’s Favor; Defendants Must Prove The ’730 Patent Claims Are Ineligible By Clear And Convincing Evidence.

“On a motion to dismiss, the Court accepts as true the factual allegations in the pleadings and draws all inferences in plaintiffs’ favor.” *Iron Gate Sec., Inc. v. Lowe’s Cos.*, No. 15-cv-

8814(KBF), 2016 WL 4146140 at *4 (S.D.N.Y. Aug. 3, 2016). If a fact is susceptible to two or more competing inferences, the Court must draw the inference that favors the plaintiff so long as it is reasonable. *Id.* at *12.

“When a defendant challenges patent eligibility through a Rule 12(b)(6) motion, courts ‘must apply the well-settled Rule 12(b)(6) standard which is consistently applied in every area of law.’” *iSentium, LLC v. Bloomberg Fin. L.P.*, 343 F. Supp. 3d 379, 383 (S.D.N.Y. 2018). Where a 12(b)(6) motion “raise[s] factual disputes underlying the § 101 analysis,” the Complaint should not be dismissed. *Id.* at 383-84. Patents are presumed valid and the burden of establishing invalidity rests on the party asserting invalidity. *Id.*; 35 U.S.C. § 282(a); *Tranxition, Inc. v. Lenovo*, 664 Fed. App’x 968, 972 n.1 (Fed. Cir. 2016) (district court erred by not applying a presumption of validity in deciding § 101 eligibility). The party challenging patent validity bears the burden of proving invalidity by clear and convincing evidence. *Quantum Stream, Inc. v. Charter Commc’ns, Inc.*, 309 F. Supp. 3d 171, 181 (S.D.N.Y. 2018). At the pleading stage, courts construe patents in a manner most favorable to the patentee. *See Content Extraction & Transmission, LLC v. Wells Fargo Bank Nat’l Ass’n*, 776 F.3d 1343, 1349 (Fed. Cir. 2014) (“CET”).

B. The Alice Inquiry Determines Patent Eligibility.

Defendants must establish by clear and convincing evidence that each of the asserted claims of the ’730 Patent are directed to a patent-ineligible category and fails both steps of the *Alice* test. To assist (if not quite *simplify*) this analysis, the Supreme Court established a two-part test to guide courts in determining patent eligibility under § 101: (1) whether the disputed claims directed to a patent-ineligible—*e.g.*, abstract—concept; and (2) if so, whether the claims contain an “inventive concept” sufficient to transform the claimed abstract idea into a patent-eligible application. *See Mayo Collaborative Servs. v. Prometheus Labs, Inc.*, 566 U.S. 66, 72 (2012).

Defendants suggest *Alice* is a new and retroactive restriction on patent eligibility, but that is not true. “The Supreme Court has ‘interpreted § 101 and its predecessors...for more than 150 years’ to ‘contain[] an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.’” *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1047 (Fed. Cir. 2016) (quoting *Alice*, 573 U.S. at 216). Monopolization of basic tools of scientific and technological work “might tend to impede innovation more than it would tend to promote it, thereby thwarting the primary object of the patent laws.” *Alice*, 573 U.S. at 216. The Court recognized, however, that at some level all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas. *Id.* An invention, therefore, is not patent-ineligible merely because it involves an abstract concept. *Id.* These exceptions to patent eligibility must be applied only to prevent the preemption of new discoveries. Otherwise, “this exclusionary principle [could] swallow all of patent law.” *Id.* at 217.

Courts must consider patent claims as a whole. *Diamond v. Diehr*, 450 U.S. 175, 188-89 (1981). “It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis.” *Id.* at 188. Patent *claims*—not the claim’s elements—grant a patentee exclusive rights. *Eyetalk365, LLC v. Zmodo Tech. Corp., Ltd.*, 356 F. Supp. 3d 1059, 1066 (D. Nev. 2018). *Id.* “One can only infringe a patent claim, not an element thereof.” *Id.* Similarly, “a court cannot invalidate a claim piecemeal, declaring individual elements of a claim to be invalid under various statutes, *e.g.*, ruling one element of a claim ineligible under § 101, another element anticipated under § 102, etc.” *Id.* To determine patent eligibility under § 101, courts apply the two-step test of *Mayo* as explained in *Alice*.

Alice Step One: A court must determine whether the claimed invention is “directed to” ineligible subject matter, including “abstract ideas.” *Id.* Step One requires courts to consider the

claims “in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015). However, the Supreme Court “has not established a definitive rule to determine what constitutes an ‘abstract idea’ sufficient to satisfy the first step of the *Mayo/Alice* inquiry.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016). Rather, the Supreme Court has “found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases.” *Id.*

A test for abstractness is whether the invention can be practiced entirely in the mind of a sufficiently intelligent person. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373 (Fed. Cir. 2011). The Supreme Court has held that processes containing one or more steps that can be conducted in the abstract are not unpatentable under § 101 so long as the process sought to be patented is not abstract as a whole. *Eyetalk365*, 356 F. Supp. 3d at 1065 (detecting presence of a person at a door, sending video of the person, and speaking with person at the door are all concrete steps requiring more than the abstract thinking capabilities of a person or computer).

While the mere implementation on a computer of an otherwise patent ineligible abstract idea will not render an abstract idea patent eligible, the inverse is not true: A claim drawn to patent-eligible subject matter does not become patent-ineligible simply because it uses a computer or mathematical formula. *Eyetalk365*, 356 F. Supp. 3d at 1065 (citing *Diamond*, 450 U.S. at 192-93; *see also Alice*, 573 U.S. at 222. “It is now commonplace that an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.” *Eyetalk365*, 356 F. Supp. 3d at 1065 (citing *Diamond*, 450 U.S. at 187).²

² In an effort to clarify conflicting *Alice* jurisprudence, the PTO issued its Jan. 7, 2019 Revised Patent Subject Matter Eligibility Guidance to instruct its patent examiners. Fed. Reg. Vol. 84, No. 4, Jan. 7, 2019 at 52 (Ex. A, “2019 PTO Guidance”) (noting that “similar subject matter has been described both as abstract and not abstract in different cases.”). In that Guidance, the PTO notes that “[A] patent claim...that recites a judicial exception is not ‘directed to’

Because eligibility (§ 101) is a separate inquiry from novelty (§ 102) and nonobviousness (§ 103), courts reject arguments that a patent is abstract because its concrete, physical components were well-known or long practiced. *Eyetalk365*, 356 F. Supp. 3d at 1065; *CG Tech. Dev., LLC v. Bwin.Party (USA), Inc.*, No. 2:16-cv-00871-RCJ-VCF, 2017 WL 58575 at *2-4 (D. Nev. Jan. 4, 2017). “A contrary approach would judicially rewrite the statutory framework for patent validity established by Congress by invalidating a patent not under §§ 101 or 102 but rather under a hybrid of §§ 101 and 102 that Congress never adopted.” *Eyetalk365*, 356 F. Supp. 3d at 1066.

Improvements to the functionality of a computer are not necessarily abstract. *Enfish*, 822 F.3d at 1335. Similarly, claims that use an abstract concept to improve an existing technologic process are patent eligible. *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016). In the “directed to” inquiry at *Alice* Step One, a court cannot simply ask whether the claims *involve* a patent-ineligible concept, because essentially every patent-eligible claim “involving physical products and actions involves a law of nature and/or natural phenomenon[.]” *Enfish*, 822 F.3d. at 1335; *see also Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1299 (Fed. Cir. 2016) (recognizing that at some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas). Step One questions whether patent claims, considered as a whole in light of the specification, are directed to excluded subject matter. *Enfish*, 822 F.3d at 1335; *Amdocs*, 841 F.3d at 1299.

In light of *Enfish* and other post-*Alice* decisions, “it is clear that the main thrust behind step one is to determine whether the claim moves beyond a long-understood concept or simply seeks to monopolize one by masking it through the medium of technology. To resolve this question, a

the judicial exception if the judicial exception is integrated into a practical application of the judicial exception.” (*Id.*, No. 4.)

court must define the idea, and then ask whether that idea, in all of its generic permutations, essentially constitutes the invention, or whether the invention is to accomplish the abstract idea in a particular way.” *Verint Sys. Inc. v. Red Box Recorders, Inc.*, 226 F. Supp. 3d 190 (2016) (quoting *Iron Gate*, 2016 WL 4146140, at *8).

Alice Step Two: The fact that a claim is directed to a patent-ineligible concept does not necessarily mean it is patent ineligible under § 101. *Alice*, 573 U.S. at 217. *Alice* requires a court to examine the claim elements to determine whether the claim contains an inventive concept sufficient to transform the abstract idea into a patent-eligible application. *Id.* at 221. The Court must look to the remaining elements aside from those directed to an abstract idea, either in isolation or combination with the other non-patent-ineligible elements. *See, e.g., Versata Dev. Grp, Inc. v. SAP Am. Inc.*, 793 F.3d 1306, 1334 (Fed. Cir. 2015); *In re BRCA1– & BRCA2–Based Hereditary Cancer Test Patent Litig.*, 774 F.3d 755, 764 (Fed. Cir. 2014); *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016); *I/P Engine, Inc. v. AOL Inc.*, 576 Fed. App'x. 982, 993 (Fed. Cir. 2014) (Mayer, J., concurring). “Step two is ‘a search for an inventive concept—i.e., an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.’” *Intellectual Ventures I, LLC v. Symantec Corp.*, 838 F.3d 1307, 1314 (Fed. Cir. 2016).

Alice Step Two also addresses eligibility *only*. *See Diamond*, 450 U.S. at 178-79; *Intellectual Ventures I*, 838 F.3d at 1315 (the “novelty of any element or steps in a process, or even of the process itself, is of no relevance in determining” patent eligibility under § 101); *Chamberlain Grp., Inc. v. Linear LLC*, 114 F. Supp. 3d 614, 627 (N.D. Ill. 2015) (same).

A claim that employs a well-known (and abstract) formula in a process designed to solve a technological problem in a conventional industry practice is a patentable application of the

abstract formula. *See Diamond*, 450 U.S. at 178-79. Claims that “‘purport[] to improve the functioning of the computer itself’ or ‘effect an improvement in any other technology or technical field’” suffice under Step Two. *Mortgage Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016); *see also Amdocs*, 841 F.3d at 1300 (solution that requires generic components is still patent eligible when generic components operate in an unconventional manner to achieve improvement in computer functionality that is critical advancement over prior art). An inventive concept may also be present where the claim involves “the non-conventional and non-generic arrangement of known, conventional pieces.” *Bascom*, 827 F.3d at 1350.

Ultimately, “the nub of the issue [is] whether the claimed invention merely attempts to monopolize ineligible subject matter in a particular setting, or whether it actually works an improvement in human knowledge. Only the latter may receive patent protection.” *Verint*, 226 F. Supp. 3d at 197. At the pleading stage it is improper for the Court to address fact disputes as to whether claim elements are well-understood, routine, or conventional. *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1130 (Fed. Cir. 2018.)

IV. ARGUMENT

A. Juno’s Rule 12(b)(6) Motion is Premature.

The Court should deny Juno’s Motion as premature because the parties dispute claim construction, inventiveness, and even the nature of the claimed invention. Although claim construction is not always required before patent eligibility is determined, the Federal Circuit has cautioned that “it will ordinarily be desirable—and often necessary—to resolve claim construction disputes prior to § 101 analysis, for the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter.” *Bancorp Serv., LLC v. Sun Life Assur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1273-74 (Fed. Cir. 2012). Here, there are complex and disputed issues of claim construction that must be decided before patent-eligibility

can be seriously questioned. *See Data Distrib. Tech., LLC v. BRER Affiliates, Inc.*, No. 12-4878 (JBS/KMW), 2014 WL 4162765, at *7 (D.N.J. Aug. 19, 2014) (denying *Alice* motion pending claim construction, noting “Plaintiff has not provided proposed constructions and has no obligation to do so at this time.”); *Cave Consulting Grp., Inc. v. Truven Health Analytics, Inc.*, No. 15-cv-02177-SI, 2016 WL 283478, at *3 (N.D. Cal. Jan. 25, 2016) (denying *Alice* motion pending claim construction); *StoneEagle Servs., Inc. v. Pay-Plus Sols., Inc.*, No. 8:13-cv-2240-T-33MAP, 2015 WL 518852, at *4 (M.D. Fla. Feb. 9, 2015) (denying *Alice* motion when parties disputed basic character of claimed subject matter).

1. The Fact-Based Inquiry Whether The Patent Relies On “Generic” Components Requires Construction Of Means-Plus-Function Claims.

Juno oversimplifies the invention as “vehicle dispatch” and then argues that it cannot be inventive because it recites only “generic” components. (Dkt. 40 (hereafter “Br.”) at 1, 13, 18-21.) This argument demonstrates the need for claim construction—the process by which the corresponding structures for the means-plus-function claims are identified—before any determination that the claims rely only on “generic” components. *See* 35 U.S.C. § 112(f) (“An element in a claim for a combination may be expressed as a means or step for performing a specified function...and such claim shall be construed to cover the corresponding structure....”); *D&M Holdings, Inc. v. Sonos, Inc.*, No. CV 16-141-RGA, 2017 WL 1395603 at *8 (D. Del. Apr. 18, 2017) (denying *Alice* motion pending claim construction); *Enfish*, 822 F.3d at 1337 (addressing means-plus-function claims in *Alice* analysis).

Likewise, Juno’s arguments that (a) the claimed “allocation” contains no “description of how the system selects an appropriate vehicle” or “recite specific hardware”; and (b) the claims do not “provide any detail on how to perform the claimed tracking” (Br. at 3) are incorrect, but

further demonstrate the need for claim construction. The Court cannot now meaningfully determine *which* structures are recited, or whether they are “conventional” or “generic.”

2. The Claims Must Be Construed Before The *Factual* Determination That Elements Were “Well-Understood, Routine, Or Conventional.”

Without identifying the corresponding structure for the means-plus-function claims, Juno asserts that all of the claim elements are “well-understood, routine, and conventional.” (Br. at 20-21.) What was “conventional” at the time of the invention is a question of *fact*. *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 890 F.3d 1354, 1359 (Fed. Cir. 2018). The Amended Complaint is replete with facts showing these elements were not well-understood, routine or conventional in 2000. (*See, e.g.*, AC at ¶¶ 27, 31, 34.)

B. ALICE STEP ONE: The ’730 Patent Claims A Patent-Eligible Transit System.

1. The ’730 Patent Combines Specific, Concrete, Emerging Technology To Arrive At An Improved Transit System.

Any patent claim can be described as abstract if it is generalized to its most abstract purpose, oversimplified, and stripped of its limitations and corresponding structures. Juno engages in the same “reductionist simplicity” the courts have warned against.

The Patent distinctly claims a “wireless means” of “on-demand allocation” and “tracking”; location technology; an inventive “central data system”; and “communication devices” for three-way communication between passengers, vehicles, and the central data system. (*See, e.g.*, ’730 Patent at Claims 2, 3, 6; Figs. 2, 5, 6, 8, 9; Table 1; 4:64-5:15, 5:16-6:45, 7:20-24, 10:23-27, 11:42-45, 14:4-15:51, 16:34-38, 23:32-33, 23:30-33.) The corresponding structure for these claims is extensively exemplified in the specification. (*Id.*) This was revolutionary in 2000.

Juno’s logic leads to two absurd conclusions: (1) any invention that uses any computer technology is abstract unless it improves the computer itself; and (2) any invention that uses known

elements cannot be inventive. Neither proposition is true. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418-19 (2007). Juno suggests that the claims are directed to the “fundamental business practice” of “vehicle dispatch” and, therefore, preempt an entire field of innovation. (Br. at 11, 25.) But the claims, of course, do not claim all vehicle dispatch—they claim a particular transit system that includes vehicle dispatch in its inventive “allocation” and “tracking” process. Juno thus commits the sin the Federal Circuit has warned against: “describing the claims at such a high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule.” *Enfish*, 822 F.3d at 1337; *Thales Visionix, Inc. v. United States*, 850 F.3d 1343, 1347 (Fed. Cir. 2017) (“[w]e must therefore ensure at step one that we articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful.”). There are vehicle dispatch systems that do not infringe, including the prior art.

2. Courts Find Claims to be Patent-Eligible when they are Directed to a Specific Improvement Over Prior Art Systems.

In *McRO*, the Federal Circuit considered claims directed to a “method for automatically animated lip synchronization and facial expression of three-dimensional characters.” *McRO*, 837 F.3d at 1307. That court found the patent was directed to a patentable, technological improvement over existing, manual 3-D animation techniques and did not simply use a computer as a tool to automate conventional activities. *Id.* at 1314, 1316 (rejecting defendant’s “pen and paper” argument). The court reasoned that the claims are limited “to a specific process for automatically animating characters using particular information and techniques and does not preempt approaches that use rules of a different structure or different techniques.” *Id.* at 1316; *see also Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362 (Fed. Cir. 2018) (claim directed to “an improved user interface for computing devices” and not to the abstract idea of an “index”) & 1363 (claims disclose “a specific manner of displaying a limited set of information to the user.... Like

the improved systems claimed in *Enfish*, *Thales*, *Visual Memory*, and *Finjan*, these claims recite a specific improvement over prior systems....”).

Similarly, in *Ancora Technologies, Inc. v. HTC America, Inc.*, the court found a claim not abstract because it aimed to improve security—against a computer’s unauthorized program use—“by a specific technique that departs from earlier approaches to solve a specific computer problem.” 908 F.3d 1343, 1348-49 (Fed. Cir. 2018) (claim relies “on specific and unique characteristics of certain aspects of the BIOS that the patent asserts, and we lack any basis for disputing, were not previously used in the way now claimed...[citing specification].”) And in *Data Engine Technologies LLC v. Google LLC*, the court reversed dismissal for patents that were “directed to and claim a method of implementing a notebook-tabbed interface, which allows users to easily navigate through three-dimensional electronic spreadsheets.” 906 F.3d 999, 1003 & 1008 (Fed. Cir. 2018) (“prior art computer spreadsheets were not user friendly” and the invention solved it “in a particular way—by providing a highly intuitive, user-friendly interface with familiar notebook tabs for navigating the three-dimensional worksheet environment [citing specification].”); *see also Finjan, Inc. v. Blue Coats Sys., Inc.*, 879 F.3d 1299, 1303-05 (Fed. Cir. 2018) (claims directed to “providing computer security by scanning a downloadable and attaching the results of that scan to the downloadable itself” are patent eligible); *Thales*, 850 F.3d 1343 (Fed. Cir. 2017) (claims that provided non-conventional method that eliminated problems with determining the position and orientation of an object on a moving platform are patent eligible).

As with these cases, the ’730 Patent is directed to an improvement of a prior art system that solves specific problems identified in the prior art. (AC at ¶¶ 17, 26-32, 34-36.) The Patent noted numerous problems with the prior art: (1) prior art systems provided no electronic identification or locating function for increased safety and to notify a passenger of the vehicle’s ETA or vehicle

proximity; (2) the prior art taught “allocation” only by hailing a taxi or a phone message transmitted through a third person, both far less reliable and secure than the claimed system; (3) the art provided no cash-free, credit-card-free automatic payment; and (4) it provided no “plurality of communication devices” to allow communication between the passenger, the driver, and the central data system and location technology communicating simultaneously. (AC at ¶¶ 27-37.)

Under Defendant’s reasoning, no transportation system could be patented after the first taxis of the 1800s, including its own patented systems. Like the automated animation patent in *McRO*, 837 F.3d at 1310 (rejecting challenge that animation could be done with pen and paper), the ’730 Patent automates and enhances a manual process using new rules, steps, and technology.

3. Professor Dickerson Claims a New and Improved Transportation System that Integrates Passenger Location Into its Allocation Process.

Professor Dickerson’s invention is a system that integrates a combination of elements to achieve a ground-breaking transportation system. Juno asks the Court to do exactly what *Diamond* prohibits: to dissect the claims into “old and new elements” and “ignore the presence of the old elements in the analysis.” *Diamond*, 450 U.S. at 188. Contrary to Juno’s suggestion, Professor Dickerson need not have invented the cell phone, or fiber optic cables, or vehicles, to integrate them into his inventive system. *See, e.g., Exergen Corp. v. Kaz USA, Inc.*, 172 F. Supp. 3d 366, 370 (D. Mass. 2018) (holding that body temperature detector was not abstract because it revealed a “novel combination of two previously known but uncorrelated scientific principles.”). Moreover, the ’730 Patent’s “allocation” is inventive in and of itself.

Location technology: By adding passenger location to the allocation process, Professor Dickerson configured his system in an unconventional way, one that like the system in *Thales* provided more precision and solved stated problems in the prior art. *Thales*, 850 F.3d at 1349. The Patent’s “allocation” uses specific passenger parameters, passenger information, transit

parameters, and vehicle data to allocate vehicles to passengers, and vice versa. The invention is not just passively tracking vehicles; it is dynamically tracking passenger and vehicle location and using their locations in an inventive way. Professor Dickerson’s ordered combination of precise location-based “allocation,” “detecting the proximity of the passenger and alerting the passenger of the proximity of the vehicle,” “tracking,” and cash-free, credit-card-free billing are not merely a computer doing something faster or more efficiently than before; rather, this invention changed the nature of transit systems themselves. (AC at ¶¶ 17, 37.)

Unlike any transportation system before, after ordering a ride, the passenger could detect the proximity of the vehicle and vice versa. (AC at ¶¶ 27, 32-34.) As in *Rapid Litigation*, it is not the end product—transportation—that is patent eligible, it is the “new and useful” transportation system that is patent-eligible. 827 F.3d at 1049-50. The court in *SZ DJI Technology Co. v. Yuneec International Co.*, found patentable “a system for controlling an unmanned aerial vehicle (UAV) using receivers and processors configured in a certain way.” No. 5:16-cv-595 BRO (KKx), 2016 WL 8931302 at *3 (C.D. Cal. Oct. 13, 2016). The claim was further directed to “tracking a target by an imaging device on the UAV” using adjustments to the UAV and/or the imaging device. *Id.* The court held that the claims addressed “more than just the abstract idea of automatic target tracking” and claimed “a specific system for controlling a UAV.” *Id.* The court further found that the patent challenger’s characterization of the invention as “automatic tracking of a target” (an oversimplification much like “vehicle dispatch”) ignored the stated purpose of the invention. *Id.* The court also distinguished *MacroPoint, LLC v. FourKites, Inc.*, cited by Juno, noting that “the patents [in *MacroPoint*] were found to be invalid because they were directed to the abstract idea of tracking freight with ‘basic concepts like (1) receiving a request for the location of freight; (2) asking the truck in possession of that freight where it is; and (3) reporting the

location of the truck.’ ... Unlike *MacroPoint*, the claims in this case do not simply use a computer to accomplish automatic tracking, but instead provide specific parameters for how to adjust the UAV and imaging device.” *Id.* at *4.

Wait times: The ’730 Patent explains in detail how wait times and time uncertainty were particular problems in the prior art. (AC at ¶¶ 28-30, 32.) The claimed system’s allocation process, which integrates “passenger information,” including passenger location; “passenger parameters”; and “vehicle information” to allocate a vehicle to a passenger, and vice versa, provides a specific solution to the problems inherent in prior art systems. (AC at ¶¶ 29-33.)

Security: The claimed invention also provides a solution to the security problems inherent in prior art transportation systems. (AC at ¶¶ 32-34.) For example, the locating functions of the system allow the system to “verify that a request for service is reasonable.” (’730 Patent at 11:50-62.) “As people approach the vehicle, the central assigning system can verify that expected persons are present based on received location data of passengers and vehicles.” (AC at ¶ 32; ’730 Patent at 14:37-40.) The shared ride vehicles’ communication devices provide “retention ability such that short term audio, video and/or digital information can support ‘black-box’ that enhances security and system statistically based improvements.” (’730 Patent at 12:41-44.) The claimed invention’s security subsystems “can identify non-users and criminal activity of passengers thus reducing such activity.” (AC at ¶ 32.) A passenger can “electronically identify himself to the system” for purposes of security, automatic billing, and dynamic scheduling.” (AC at ¶¶ 32-35.)

Juno’s mischaracterization of the invention as “basic procedures” for “vehicle dispatch” that a human operator could perform obscures the inventive nature of the claims. (Br. at 1.) The claimed system allows a ride request “with a few key strokes” and “real-time command and control of passengers and vehicles”—a function that no 2000-era “vehicle dispatch” system could perform.

(’730 Patent at Abstract (emphasis added) & Table 1.) Despite Juno’s trivializations, the Patent, unlike any transportation system before it, tracks the vehicle and the passenger to provide on-demand identification and allocation of vehicles to passengers, and vice versa. (AC at ¶ 31.) This unique system enhanced security by, among other things, “detecting the proximity of the passenger and alerting the passenger of the proximity of the vehicle,” allowing “the passenger to electronically identify himself to the system,” and by the “central assigning system [periodically notifying] of status information, including the vehicle’s position and passengers who have boarded or left the vehicle.” (AC at ¶¶ 32-34; ’730 Patent at 14:4-15:51, 16:34-38, 23:32-33, 23:30-33 & Claim 6(c).)

4. There is no danger of preemption.

Contrary to Defendant’s fears (Dkt. 40 at 5), preemption is not an issue. RideApp’s does not seek to foreclose the use of cell phones, or the use of GPS, or the use of a central assigning system for “vehicle dispatch.” Rather, RideApp seeks only to exclude others from using this specific invention: the combination of communication devices, locating technology for both the passenger and the vehicle, and allocation based on location and specific passenger data.

The Supreme Court made it clear that the *Alice* analysis intended to prevent preemption of entire areas of human endeavor. *Alice*, 573 U.S. at 216; *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (“questions on preemption are inherent in and resolved by the § 101 analysis”). Patents may issue “for the means or method of producing a certain result, or effect, and not for the result or effect produced.” *McRO*, 837 F.3d at 1314.

The ’730 Patent claims the “means or method” of creating an innovative transit system that monitors passenger and vehicle information, incorporates three-way communications to enable dynamically-updated schedules and proximity tracking, alerts to the passenger regarding those dynamic updates, and automated billing. The ’730 Patent does not claim a mere abstraction; its

claims (incorporating the structures disclosed within the specification to support the means-plus-function claims) disclose inventive concepts sufficient to render the claims patent-eligible.

Defendant's argument is circular; it argues on the one hand that the '730 Patent operates "like a standard vehicle dispatch service," and on the other hand argues that the '730 Patent preempts the entire field. (Br. at 3, 25.) Standard vehicle dispatch services—such as taxi and limousine services—existed long before the claimed invention and continue to exist; they are not preempted by the patent's claims. Juno adopted Professor Dickerson's invention and now claim that their inability to do business without the invention constitutes preemption. Preemption of Defendant's transit system is no more "preemption" than any other effort to exclude others from breaching patents. Defendant is welcome to engage in "traditional" vehicle dispatch.

5. Juno Oversimplifies the Invention to Strip The Patent of Meaning.

Defendant characterizes the '730 Patent as being directed to mere "vehicle dispatch" and "vaguely defined elements resembling aspiration goals." (Br. at 3.) This is precisely the reductionist oversimplification the Supreme Court prohibits. The invention is not the mere implementation of vehicle dispatch on a generalized computer. It is an inventive and non-conventional configuration of physical devices—wireless communication devices with specific features (geolocation) that allow communication between driver, passenger, and central assigning system (never done before); a wireless means of tracking passenger vehicle usage (never done before); and a central billing system for that usage. Yes, the invention includes software, but it is not *only* software. The invention integrates software with wireless devices, location technology, a central assigning system, and a database, all of which are concrete.

Juno overtly oversimplifies the Patent with its cartoonish reproduction of Figure 4 to include telephones and a smiley-face dispatcher. (Br. at 3.) This altered drawing does not capture all of the claimed invention. Similar attempts at misdirection could be made from the early

diagrams of virtually any patent because it is normal for early patent figures to be the building blocks of a claimed system. Notably, Juno did not use the Patent’s more detailed and complex drawings. (*See* ’730 Patent at Figs. 5, 6, 9.) Juno argues that humans could implement various functions in the invention, but what *is claimed* is an “automated system”—not people performing allocation tasks.

Whether Juno’s “team of dispatchers with maps, paper files, and landlines; drivers with CB radios; and passengers with land lines” could implement the invention (Br. at 12) is, of course, a question of fact. It is also plainly incorrect. Juno fails to show how humans “[u]sing maps, basic knowledge of local traffic, and common sense” could simultaneously determine the locations of two (or more) moving objects/people, dynamically update that information (along with other information—for example, vehicle and route preference) to allocate on-demand vehicles to passengers and vice versa, and then dynamically notify the passenger and the vehicle of the proximity of the other and securely bill for the service. (AC at ¶ 27-29.) Tracking both the passenger’s and the vehicle’s location throughout would require the driver to constantly be on his CB radio continuously updating the dispatcher of the vehicle’s location so that it could be tracked on a map. Simultaneously, another person would need to run alongside the passenger (who, contrary to Juno’s assertion, could not use land lines because the passenger may be in motion throughout the process), calling a separate dispatcher to update the passenger’s location, even after the passenger enters the vehicle (because the ’730 Patent continues tracking the passenger’s location during the ride under claims 2(a), 3(a) and 6(a)). The passenger may not know where they are; the passenger would not know the proximity of the vehicle; the dispatcher may not know the passenger parameters (e.g., preferred type of vehicle) or the vehicle parameters (the vehicle may already have one or more passengers aboard). The mere fact of human intermediaries defeats

the invention's focus on efficient allocation, tracking, and security.

Defendant argues that the claims fail to identify specific hardware and fail to describe how the invention performs the claimed tracking or how the system selects an appropriate vehicle. (Br. at 3.) Not true. the '730 Patent explains in detail the technology and algorithms that comprise the corresponding structure for the means-plus-function claims. (*See, e.g.*, '730 Patent at 14:4-15:13, FIGS. 5, 6 & Table 1 (“[T]he central assigning system processes the trip request.... The central assigning system integrates information automatically transmitted from the passenger[']s communication device or information.... Exemplary automatically transmitted data includes... location data, passenger specific data such as travel preferences, billing preferences”); AC at ¶ 29.)

The inventor carefully defined the components of his system, including communications devices (*id.* at 3:45-48, 4:64-5:53), “real-time command and control of passengers and vehicles” (*id.* at 6:6-10), the central assigning system/central data system (*id.* at 5:54-6:17, 14:4-13), software (Table 1); automatic billing (FIG. 8) and locating functions ('730 Patent at 11:43-45, Figs. 5, 6, 9).³ This is patent eligible. *See Enfish*, 822 F.3d at 1335 (it is “relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the Alice analysis.”); *SZ DJI Tech.*, 2016 WL 8931302 at *3; *Uniloc USA v. Samsung Elecs. Am., Inc.*, No. 2:17-cv-00651-JRG, 2018 WL 4927279 (E.D. Tex. Sept. 18, 2018) (solving problem in prior art through “step calculation logic” and “incline logic” is “not abstract”).

Juno further argues that “the patent does not recite a unique billing configuration, but explicitly discloses that ‘written bills can be generated and mailed or sent electronically’ using

³ Juno argues that the '730 Patent “never offers any explanation of *how* the system processes this data to locate a suitable assignment.” (Dkt. 40 at 14.) This improperly conflates Section 112(a) requirements of written description and enablement with Section 101 eligibility.

standard ‘monthly billing, as in most public utilities.’” (Br. at 15.)⁴ The objective of the invention’s billing system is to “provide a convenient access and billing system...such that a user need not be bothered with cash or tokens....” (’730 Patent at 8:32-35; *see also* 5:42-44 (“It is a great convenience not to need to make payment by cash, tokens, or credit cards each time a trip or segment of trip is made.”).) The Patent explains in detail its automatic billing, which is based on tracking of vehicle usage (’730 Patent at 18:23-44, Figs. 5, 6, 8, Table 1), and its claims are patent-eligible as a result. *See, e.g., Ancora*, 908 F.3d at 1347-49 (summarizing cases holding that claims are patent eligible if focused on “specific asserted improvement in computer capabilities”).

C. ALICE STEP TWO: The Claims Include Inventive Concepts.

The ’730 Patent’s claims are also patent-eligible under Step Two of the *Alice* test because they recite specific and meaningful limitations that, individually or collectively, include inventive concepts. *Alice*, 573 U.S. at 217. When limitations, even known limitations, are combined in a non-conventional and non-generic way, the invention contains an “inventive concept” under *Alice* Step Two. *Bascom*, 827 F.3d at 1349-50.

1. The ’730 Patent Is Directed To Ground Breaking Solutions To Problems In The Prior Art—And Claims Those Features.

Juno argues that Professor Dickerson merely recited an abstract idea and that everything in the patent was conventional and/or generic. (Br. at 18.) This is a question of fact, not a proper basis for Rule 12(b)(6) dismissal. *Aatrix*, 882 F.3d at 1130.

Prof. Dickerson combined elements in an inventive way to change the nature of transit systems. (AC at ¶¶ 17, 37.) Never before had on-demand transit been available with the push of a few buttons on a handheld, wireless device. Never before had a transit system offered dynamic

⁴ Juno’s argument that the Patent “does not recite a unique billing configuration” is a *factual* question of novelty and/or obviousness, which is not part of the Section 101 analysis.

scheduling and tracking (and notification) of proximity and ETA. (AC at ¶¶ 27, 32.) Before any discovery, and without any formal construction of the means-plus-function claims, a finding of non-inventiveness under *Alice* would be improper.

In 2000, even the individual elements of the invention were not well-understood, routine, or conventional in the transit industry, and the combination of these elements was far beyond the horizon. (AC at ¶¶ 31, 34.) The idea of GPS integrated with a cell phone was even less well-understood, routine, or conventional—only one such device had ever been commercialized as of 2000. Automated credit-card-free, cash-free payment was not well-understood, routine, or conventional in the industry, and no transit system at the time of the invention included the Patent’s inventive “tracking,” “allocation,” three-way communications, digital cellular communication, GPS locating technology “to provide real-time command and control.” (*Id.*) Juno ignores it all.

Juno cites many cases addressing patents that involved mere collection, analysis, and display of data. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016); *CET*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). The ’730 Patent is much more than any conventional system of its time. (AC ¶¶ 11, 27-35, 38-39.) Nor is Dr. Dickerson’s invention a passive, computer-operated process like tracking freight in *MacroPoint*. Yes, the invention of the ’730 Patent gathers information (some of which had never before been “gathered” in a transit system), but it does so in an inventive way to allocate vehicles to passengers, track them, and provide three-way communication and secure billing.

Juno argues that the patent “admits” that ride-sharing “was conventional” (Br. at 20), but the Patent is clearly *criticizing* “conventional” transit and proposing solutions to its deficiencies. Nowhere does Professor Dickerson describe *his invention* to be “conventional.” Juno also argues that the Patent relies on “generic” components. (Br. at 1, 13, 15, 19-21.) This *factual* argument,

however, ignores the inventive “tracking,” “allocation,” and three-way communications of the ’730 Patent. In any event, the Federal Circuit has held that the use of computers or combinations of generic components can be patent-eligible. *See Amdocs*, 841 F.3d at 1300-02 (“Claim 1 involves some arguably conventional components (*e.g.*, gatherers), but the claim also involves limitations that when considered individually and as an ordered combination recite an inventive concept through the system’s distributed architecture.”); *Enfish*, 822 F.3d at 1338 (“[W]e are not persuaded that the invention’s ability to run on a general-purpose computer dooms the claims.”). Similarly, in *Bascom*, the Federal Circuit corrected a district court, which (like *Juno*) conflated a § 103 obviousness analysis with patent eligibility under § 101, holding that the “inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art.... [A]n inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.”⁵ 827 F.3d at 1350.

Similarly, in *X One* the court rejected defendant’s argument that “the claims recite generic technologies to implement the underlying abstract idea” and analyzed “whether the ‘ordered combination’ of the claim limitations provided an inventive concept. *X One, Inc. v. Uber Techs, Inc.*, 239 F. Supp. 3d 1174, 1194-96 (N.D. Cal. 2017). The Court noted that the patent sought to resolve described problems in GPS tracking technology. *Id.* at 1197. The Court held that “the combination of a dynamic buddy list or user specific group and GPS technology transforms the abstract idea of the gathering, transmission, and display of the location information of a certain subset of individuals from a list or individuals requested to perform a service into a ‘specific, discrete implementation’ of this idea that is sufficient to qualify as patent-eligible subject matter.

⁵ The 2019 PTO Guidance notes that because *Alice* Step Two “does not evaluate whether an additional element is well-understood, routine, conventional activity [which is a question of fact], examiners are reminded that a claim that includes conventional elements may still integrate an exception into a practical application, thereby satisfying the subject matter eligibility requirement of Section 101.” (Ex. A at 55.)

Moreover, the implementation of the dynamic ‘buddy list’ and ‘use specific group’ allows for two-way sharing of information, a feature not available in the conventional technology.” *Id.* at 1198.

Here, the ordered combination of claim limitations recites an invention that is not merely “the routine or conventional use of [technology],” but instead constitutes a “non-conventional and non-generic arrangement of known, conventional pieces,” thereby creating an inventive concept. *Amdocs*, 841 F.3d at 1302; *Bascom*, 827 F.3d at 1350. The ’730 Patent claims include “a central data system for tracking passenger transportation vehicle usage and distributing periodic invoices,” “a plurality of communication devices for providing wireless communication between passengers, vehicles, and the central data system,” and a wireless means of “on-demand allocation of a passenger to a specific vehicle,” “informing the passenger of the assignment and updated expected arrival time,” and “detecting the proximity of the passenger and alerting the passenger of the proximity of the vehicle.” (’730 Patent at claims 1-6; *see* AC at ¶¶ 17, 26-37.)

Juno’s description of the Patent as claiming “the abstract idea of vehicle dispatch” (Br. at 19) is also hypocritical. When Juno’s owner sought its own patents for a “system for directing a driver to a passenger based on a destination location specified by the driver” in August 2015, it did not argue that its patent was directed to the “abstract idea of vehicle dispatch.” (Ex. B, U.S. Patent No. 9,933,271.) Juno’s owner overcame the examiner’s § 101 *Alice* objection, arguing in July 2017 that its inclusion of limitations to a “processing device” to perform “distinct tasks” to automate a process that could be performed by humans overcame any *Alice* challenge. (Ex. C, Excerpt of File History for U.S. Patent 9,993, 271, Amendment and Response to Office Action, dated July 6, 2017 at 9.)

2. The Amended Complaint Alleges Inventive Concepts that Create Factual Disputes.

RideApp extensively points to specific evidence (and made numerous allegations) that the

Patent claims were unconventional and contain inventive concepts. (*See, e.g.*, AC at ¶¶ 27, 31, 34.) Viewing these allegations as true and drawing all reasonable factual inferences in the light most favorable to RideApp, Juno’s motion should be denied. *Fleming v. Pickard*, 581 F.3d 922, 925 (9th Cir. 2009). As the Federal Circuit held in *Berkheimer v. HP Inc.*, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact. Any fact, such as this one, that is pertinent to the invalidity conclusion must be proven by clear and convincing evidence.” 881 F.3d 1360, 1368 (Fed. Cir. 2018); *see Aatrix*, 882 F.3d at 1125, 1127-28 (patentees who “allege their claims contain inventive concepts survive a § 101 eligibility analysis under Rule 12(b)(6).”).

3. An Inventive Concept Based on an Abstraction is Patent Eligible.

No prior transit system had allowed for the Patent’s configuration of three-way communication; none offered “tracking” or automatic billing based on “tracking”; and none offered passenger notification of vehicle proximity. The ordered combination of the claim elements renders the invention patentable. Being able to request a ride with keystrokes on a wireless device is “significantly more” than “vehicle dispatch.”⁶ *See Aatrix*, 882 F.3d at 1128; *Bascom*, 827 F.3d at 1350 (“The inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art.”); *KSR*, 550 U.S. at 418-19 (“[I]nventions in most, if not all, instances rely upon building blocks long since uncovered” and “almost of necessity will be combinations of what, in some sense, is already known.”).

V. CONCLUSION

For the foregoing reasons the Court should deny Juno’s Motion.

⁶ RideApp submits that the widespread adoption of the transit system claimed in the ’730 Patent, and the evident economic success that resulted, are functional evidence that there is an “inventive step” in its claims.

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